



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,093	08/09/2001	Timothy B. Murray	PSE 6612	4141

321 7590 05/28/2003

SENNIGER POWERS LEAVITT AND ROEDEL
ONE METROPOLITAN SQUARE
16TH FLOOR
ST LOUIS, MO 63102

EXAMINER

SAWHNEY, HARGOBIND S

ART UNIT PAPER NUMBER

2875

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,093

Applicant(s)

MURRAY ET AL.

Examiner

Hargobind S Sawhney

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 21-46 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, 10, 11, 16 and 18 is/are rejected.
- 7) ☒ Claim(s) 3-5, 8, 9, 13-15, 17, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 5.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Species I Figures 1-4

Species II Figures 5-7

Species III Figures 8-11

Species IV Figure 12

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, Claim 1 is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

2. During a telephone conversation with Mr. Robert Bain, the attorney, on May 9, 2003, a provisional election was made without traverse to prosecute the invention of Figures 1-4, claims 1-11 and 13-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12 and 21- 46 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Robert Bain, the attorney, on May 9, 2003.

- Claim 13, line 1, rephrase "The light of claim 12" as --The light of claim 11--.

Claim Objections

4. Claims 6,8,9 and 15 are objected to because of the following informalities:

Claim 6, line 2, "a" should be corrected to – an --;

Claim 8, line 4, "on" needs to be corrected as --one --; and

Claim 15, line 3, "the current feedback circuit" needs to be rephrased as --a current feedback circuit – to avoid an error reflecting insufficient antecedent basis;

Appropriate correction is required.

Claim 9 is necessarily objected because of its dependency on the objected base Claim 8.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claim 1,2,6,7,11 and 18 are rejected under 35 U.S.C. 102(a) as being anticipated by Worsdell et al. (International Publication No.: WO 00/71417 A1).

Regarding claims 1,2,6 and 7, Worsdell et al. (International Publication No.: WO 00/71417 A1) discloses an emergency warning light 1 (Figures 2 and 3) comprising:

- a heat sink 11 (Figure 3, page 11, lines 16 and 33-36);
- a heat engine 10 (Figure 3, page 11, lines 16) thermally in contact with the heat sink 11, and bearing an array of light emitting diodes (LEDs) 23 (Figure 8, page 12, lines 21-24);
- a lens 3 (Figure 3, page 11, lines 11 and 12) adjacent the light engine 10;
- the lens 3 including a plurality of total internal reflection (TIR) surface configuration (page 14, lines 118-22);
- the lens 3 covering the light source, and having each one of its TIR surface configurations corresponding to one of the LEDs of the array 23 (Figure 3, page 6, lines 4-6);
- a power supply circuit (not shown, Page 12, lines 25 and 26) supported by the heat sink 11 (Figures 3 and 6, page 12, lines 10 and 11);
- the heat sink 11 further including an integral mounting portion further including an integral mounting portion 6 (Figure 3, page 11, lines 7-10);
- a mounting bracket 5 supporting the heat sink 11, the light engine 10 and the lens 3 (Figure 3);

Regarding Claim 11, "for the use in light bar having a support" reflects the manner in which a claim apparatus is intended to be employed. This intended use does

not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitation. Further, Claim 1 including the limitation " adapted to engage the support of the light bar" which is not recited in a positive manner. Therefore, "adapted to the light bar" does not constitute a limitation in any patentable sense.

Further, regarding claims 11 and 18, Worsdell et al. (International Publication No.: WO 00/71417 A1) discloses an emergency warning light 1 (Figures 2 and 3) comprising:

- a module including a heat engine 10 (Figure 3, page 11, lines 16) thermally in contact with the heat sink 11, and bearing an array of light emitting diodes (LEDs) 23 (Figure 8, page 12, lines 21-24); and
- the heat sink 11 further including an integral mounting portion further including an integral mounting portion 6 (Figure 3, page 11, lines 7-10).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worsdell et al. (International Publication No.: WO 00/71417 A1) in view of Bischoff, Jr. (US Patent No.: 6,158,882).

Regarding claims 10 and 16, dependent on claims 1 and 11 respectively , Worsdell et al. (International Publication No.: WO 00/71417 A1) teaches an emergency warning light 1 (Figures 2 and 3) comprising including the lens 3 including a plurality of total internal reflection (TIR) surface configuration (page 14, lines 118-22). However, Worsdell does not teach specific structure of the surface configuration of the TIR lens.

On the other hand, Bischoff, Jr. (US Patent No.: 6,158,882) discloses a TIR lens (Figure 1) comprising:

- the lens (Figure 10 having opposing an outer surfaces 1 and an inner surface bearing TIR elements 2 and 3 (Figure 1, column 4, lines 24-29);
- the inner surface with TIR surface configuration facing the light engine 5, and collecting light generated by the light source (Figure 5, column 4, lines 29-36); and
- the outer surface 1 including a distributing surface distributing light collected by the TIR surface 2,3 (Figure 1, column 4, line 54-56).

It would be have been obvious to one of ordinary skill in the art at the time of the invention to modify the emergency warning light of Worsdell by providing a the TIR lens as taught by Bischoff for benefit and advantage of providing uniform brightness across the lens.

Allowable Subject Matter

9. Claims 3-5,8,9,13-15,17,19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record, Worsdell et al. (International Publication No.: WO 00/71417 A1) , fails to show or suggest the applicant's invention as claimed.

Specifically, the prior art of record does not disclose proper motivation for combining:

- a DC-power supply circuit connected to a light engine comprising an LED series string array as recited in claims 3 and 14;
- a step-up dc-dc voltage conversion circuit receiving DC voltage, and providing a step-up dc voltage to the LED series as recited in claims 3 and 14;
- a current feedback control circuit in series with the LED series as recited in claims 3 and 14;
- a heat absorbing substrate bearing an LED series, and additionally including thermal conducting pad positioned between the heat absorbing substrate and heat sink as recited in claims 5 and 17;
- a TIR surfaces having at least one internal runner combined with the TIR configurations each including a convex wall, an inner sidewall, an outer sidewall as recited in claims 8 and 19;

- a second light engine including a second array of LEDs and a second lens positioned adjacent the second light engine, and including a plurality of second TIR surface configurations as recited in Claim 13;
- a flash control circuit and a current feedback circuit providing flash control signals as recited in Claim 15; and
- a light engine comprising an LED series string assembly including a DC power supply with a constant current step-up power supply circuit as recited in Claim 20.

Claim 4 is necessarily objected because of its dependency on the objected base Claim 3.

Claim 9 is necessarily objected because of its dependency on the objected base Claim 8.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hargobind S, Sawhney whose telephone number is 703-306-5909. The examiner can normally be reached on 7:30 - 5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 703-305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-8303 for After Final communications.

Art Unit: 2875

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2956.

HSS

5/16/2003


Examiner: Hargobind S. Sawhney